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| 10/676,373   | 09/30/2003  | Stefan Jesse           | 09700.0216-00       | 3224             |
| 60668 7590 03/21/2008<br>SAP / FINNEGAN, HENDERSON LLP<br>901 NEW YORK AVENUE, NW<br>WASHINGTON, DC 20001-4413 |             |                        |                     |                  |
| EXAMINER<br>VU, TUAN A   |             |                        |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/676,373

**Applicant(s)**

JESSE ET AL.

**Examiner**

Tuan A. Vu

**Art Unit**

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is responsive to the Applicant's response filed 10/03/07.

As indicated in Applicant's response, claims 1, 10, 18 have been amended. Claims 1-22 are pending in the office action.

#### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 8, 18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 4, 12, 19 of copending Application No. 10,676,374 (hereinafter '374).

Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following example of conflicting claims.

**As per instant claim 8**, compending '374 claim 4 recites a first data model being used to derive an API and employing the API to access development objects. But '374 claim 4 does not explicitly recite (i) first model defining development objects as building blocks for the application; (ii) generate intermediate objects therefrom and (iii) using the set of intermediate objects as inputs to generate the API, the model including (iv) a first model customized extension used to implement a feature of the API such as an indication of a file border and (v) API enforces relationships and constraints defined in the first model.

However, '374 claim 4 recites a variation of the language in claim 8 for limitations (i) and (ii) via the recital of 'defining file borders comprising identifying of development objects to be included in a file ... in the data model ... to be children of the main ... object that are not identified as main...objects', the intermediate objects being added objects to the file of the main object including development objects defined in the data model. As for the *constraints enforcing* limitation of (v) based (iii)-- *using the set of intermediate objects as input for the API generating*—'374 claim 4 includes file storing user-defined code associated with the main development object; and in view '374 teaching of a definition file (see '374 claim 4) in light of objects being defined -- in terms of parent/child relationship in '374 claim 3 -- one of ordinary skill would recognize these defined objects as well-known interrelated model components viewed in a GUI development interface of '374, i.e. API - to necessarily support user's development via instantiating one such development GUI API for accessing model objects. And this as a whole would be equivalent to (iii) for enforcing constraints as suggested above, or otherwise obvious variation thereof. As for the *customizable extension* comprising a file border indication referred to as (iv), this is suggested in '374 reciting of 'defining file borders for

development', and storing development objects in a repository based on the file borders, and accessing these objects via the API (\*); so that one skill in the art would be motivated to provide an extension structure obtained from the repository (e.g. template builder) in the course of the API derivation with utilizing of information in the '374 stored file-based repository for the derivation. That is, the information thus extended (e.g. via a template builder) from the stored model/repository regarding a particular file border identity would be used to support the creation of API parameter or attributes which would be needed to access the very components stored from the '374 defining of file borders, as purported by the endeavor described as (\*) from the above.

**As per instant claim 8**, '374 claim 19 also recites API derived from a data model, file borders defined in the model, and user interface using the API to access development objects being stored in a repository. Claim 19 does not recite 'first language model with extension to implement API and file border; but based on '374 reciting of association between component and model class 'that associates a user interface to a ... application model', the extension by use of border file suggest the *extension* limitation of instant claim 8 to provide deriving of association between stored model objects; that is, obviousness in terms of instant claim 8 limitations such as API for 'enforcing constraints' and 'language extension' does apply here in view of the rationale set forth above.

**As per instant claim 18**, '374 claim 12 also recites an obvious language variant thereof in expressing 'receiving of a model' in a development method, a *language extension* for defining a model representing blocks in terms of 'component class' and 'model class' as well as their inter-association for developing an application ( Note: this would be an obvious variation of

building block relationships among objects and, hence suggesting constraints thereof), deriving a API based thereon, and use the API for *enforcing constraints* in the model within the development of the application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Objections***

4. Claims 18-22 are objected to because of the following informalities: the reciting 'first model' without a scenario that would otherwise clarify why a model is *first*; i.e. in the absence of a *second* model, is deemed an improper use of language. The term 'first' will be given no merits. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 10-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "such that the API" in line 9. There is insufficient antecedent basis for this limitation in the claim, and it will be given no patentable weight. The 'enforces ... relationships' limitation would be treated as though it were based on the using of intermediate objects and building blocks of the first model, in the course of the XML generating process.

Claims 11-17 do not remedy to the above lack of antecedent basis, hence are also rejected.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charisius et al., USPN: 2002/0108101, (hereinafter Charisius)

**As per claim 1**, Charisius discloses a computer program product, tangibly embodied in an information carrier, for developing an application, the computer program product being operable to cause data processing apparatus to:

receive a first model in a first language (e.g. model 204 – Fig. 2; Unified Modeling Language - para 0088-0089, pg. 13; Fig. 3, 5 - Note: graphical views of language representation , e.g. UML, being instantiated as from core model 302 **reads on** model being in first language whose Java classes are building blocks – graphical view 204 in Fig. 2, or package classes view in Fig. 5 – representing a given development instantiated to form the SCT model ), the first model defining development objects representing building blocks for developing the application (e.g. Fig. 12-18), relationships among developing objects, and constraints for developing the application (Note: standardized UML notations and language rules reads on constraints between UML objects);

generate a set of intermediate objects using the first model (e.g. templates, data structure – para 0089, pg. 13; symbols – Fig. 10A-B); and

using the set of intermediate objects, generate an API (e.g. Meta Model 200, interface 610, Fig. 6-7 – Note: using the packages from derived template and class symbols represented in UML model, along with graphical view of code objects to generate a metamodel within interface 610, including instance of RWI, IDE or SCI **reads on** using intermediate objects to create one such API being instantiated, an instance of TMM within Interface 610 for further tasks) wherein the API enables accessing the development objects (e.g. Fig. 7; DE: *extract information from the model* – para 0065; *access information* – para 0068, pg. 4; para 0089-0090, pg. 13).

Charisius does not explicitly disclose that the instance of API generated from the first model enforces the relationships and constraints defined in the first model. But based on Charisius teaches additional modules to support the created API (see modules 704 -Fig. 7) and using a graphical representation to validate new entries in the temporary model, the concept that using the API instance (TMM associated with framework instance 610 and support modules) for accessing more development objects (see Fig. 10A-B; para 0091, pg. 13 ) and for validating whether these (classes) objects are compliant to their being structured or logical sequence dictated from their source hierarchical relationship (see Fig. 13-19; messages ... collaboration ... desired operation ... emphasize time ordering – para 0092-0094, pg. 13) is strongly suggested. It would have been obvious for one skill in the art at the time the invention was made to implement the Quality Assurance modules (para 0068, pg. 4) and the IDE support modules (Fig. 7) along with the UML-derived graphical view instance of the TMM (see Figure 3-6) to enforce



relationships and constraints defined in the 'first model' as set forth above, because of the very nature of object relationship defined and regulated as UML and class inheritance due to the object-oriented nature of source or templated classes as endeavored by Charisius use of IDE via support of the above auditing capabilities when generating OO objects in a editable and updatable viewer to achieve a correct state of a TMM (see Fig. 10 and 11) viewed within the interface 610 as purported by Charisius development cycle (see Figure 2 and Figure 7)

**As per claim 2**, Charisius discloses instructions to convert the first UML model to a second data model as a transient TMM and less specific proprietary form (e.g. Fig. 2; para 0087, pg. 12), wherein the set of intermediate objects is generated using this second data model (e.g. Fig. 10A-B - Note: dynamic TMM view incorporating additional objects, structure and OO symbols – see para 0059-0060, pg. 4; para 0088-0094, pg. 12-13 -- **reads on** using second model to generate more intermediate objects being a second and different form of language than first UML notation).

**As per claim 3**, Charisius does not explicitly disclose that the second language model comprises XML. Charisius discloses UML objects as identified objects to include in a XML model ( see Fig. 25 and related text) and further teaches a first DTD model ( a first model depicting relationship among objects) being parsed to generate intermediate objects ( e.g. Fig. 21-23 – Note: parsing of model DTD – para 0101, pg. 14 - into 'XML structure diagram' – para 0109, pg. 15 – reads on intermediate object to derive DTD model into XML schema structure in a different language) and derive a dynamically incremented second XML model. It would have been obvious for one skill in the art at the time the invention was made to implement the interface 610 (see Fig. 3, 7) by Charisius so that, when the first model is in a DTD-based

language or a UML object construct as mentioned above, the instantiated API 610 includes a GUI viewer instance operating as a dynamic application interface as to enable the developer to dynamically validate entries into the "XML structure diagram" as intermediate object as mentioned above; that is, using the TMM/610 API instance as means to further validate the corresponding relationship or mappings between the first source DTD model, the derived mappings or tagged constructs – see para 0110-0117, pg. 15-17—and the target XML language as intended in Charisius' framework API using its source auditing capabilities (see Fig. 21-24; see Fig. 7)

**As per claim 4**, Charisius disclose wherein the first language is UML (e.g. para 0088-0089, pg. 13).

**As per claim 5**, Charisius discloses wherein the set of intermediate objects comprises Java objects (e.g. Fig. 5; Fig. 12-16; *java ...template* - para 0089-0090, pg. 13).

**As per claims 6-8**, Charisius discloses wherein the first language comprises a customizable extension (e.g. view 204, TMM 200, code editor 208 -Fig. 2; para 0064-0067, pg. 4); wherein the customizable extension is used to implement an additional feature of the API (e.g. para 0064-0067, pg. 4; Fig. 9), wherein the additional feature comprises an indication of a file border (e.g. *file is new... file ... been updated* -- para 0090, pg. 13– Note: repository of model – Fig. 2-5 --having files being enlisted for a project and identified for its update status **reads on** model extension with indication to file borders including management or versioning metric).

**As per claim 9**, Charisius discloses wherein the API comprises a copy and paste operation (e.g. Fig. 12-18, 22, 23; para 0090-0094, pg. 13 – Note: customization via user

interface (see GUI pane with toolbar) to create instance of API from the core API of Fig. 7 whereby the IDE enables modeling and delete/add of development objects reads on GUI API in which *copy and paste* are features operable user's modifications of a UML view ).

**As per claim 10**, Charisius discloses a computer program product, tangibly embodied in an information carrier, for developing an application, the computer program product being operable to cause data processing apparatus to:

receive a first model in a first language ... relationships among the development objects (para 0101, pg. 14);

generate (a set of intermediate objects ...) using the first model (para 0109, pg. 15; Fig. 21B; Fig. 26B-C);

and generate an XML schema (e.g. Fig. 21-24) using the set of intermediate objects as inputs ( see 'XML structure diagram' – para 0109, pg. 15 – Note: using a modifiable and dynamic instance of the XML structure diagram to build correspondence between a DTD model and target XML structure reads on using derived markup construct to build the XML -- see Fig. 26B-C)

But Charisius does not explicitly wherein said using the intermediate objects as inputs would ( as a functionality to – Note: API treated as a having no weight – see USC 112, 2nd paragraph) enforce the relationships and constraints defined in the first model so to enable implementation of development objects. But based on the deriving of additional OO constructs from the deriving of markup reading, and the mapping of constructs (see Fig. 25-26), the validation of construct during the mapping is strongly suggested. Based on the auditing and

validating modules as provided in the neutral interface of Figure 7, it would have been obvious for one skill in the art at the time the invention was made to implement the constraint enforcing during the XML generation process as disclosed by Charisius, so the model mappings or OO class relationships are verified and enforced during the use of the API code viewer based on the provided validating modules (e.g. RWI, SCI, IDE, Code Editor, Parser – Fig. 7) as set forth above.

**As per claim 11**, the use of a XML intermediate structure (e.g. para 0109, pg. 1) as a temporary XML model representation to incorporate more intermediate OO data constructs (e.g. see Fig. 25, 26) reads on using a second model to dynamically generate more objects.

**As per claims 12-14**, refer to the corresponding rejection as set forth in claims 3-5.

**As per claims 15-16**, Charisius discloses wherein the XML schema includes a tree based on aggregation relationships in the first data model; wherein the XML schema includes a reference based on an association relationship in the first data model (e.g. Fig. 24-25; Figs 26).

**As per claim 17**, Charisius discloses wherein the XML schema includes a complex type extension based on an inheritance relationship in the first data model (e.g. Fig. 12-18; *JAVA*, *group... defining elements, "hierarchy"*, para 0124-0126, pg. 18 – Note: UML and Java constructs parsed with construction of AC3 DTD and XML hierarchy reads on inheritance within some complex type in which a group is linked to constituting subelements – see Fig. 25).

**As per claim 18**, Charisius discloses a computer program product, tangibly embodied in an information carrier, for developing an application, the computer program product being operable to cause data processing apparatus to:

receive a first model defining development objects ... relationships among ... objects, and constraints for developing application (refer to claim 1) ;

derive an API based on the first model (refer to claim 1); and

use the API to perform operations on the development objects (e.g. refer to claim 2; *extract information from the model* – para 0065; *access information* – para 0068, pg. 4; para 0089-0090, pg. 13 – Note: ).

But Charisius does not explicitly disclose that the instance of API generated from the first model enforces the relationships and constraints defined in the first model. The API enforcing limitation has been addressed as obvious in claim 1.

**As per claim 19**, Charisius discloses wherein the API comprises an interface layer (e.g. para 0064-0067, pg. 4 Note: RWI API reads on interface layer wherein diagrams can be user driven), a proxy layer (e.g. IDE API reads on proxy layer wherein information are channeled, extracted and filtered for the interface layer to used) a state layer (e.g. SCI API reads on state layer wherein data received as-is is just displayed for plain view and editing by the RWI).

**As per claim 20**, Charisius discloses wherein the operations comprise creating a new development object as a transient object (e.g. Fig. 12-18 ); and modifying the transient object until the transient object is committed to a persistent file (e.g. Fig. 12-18; ; para 0090-0094, pg. 13).

**As per claims 21-22**, Charisius discloses comprising instructions to destroy the transient object if a delete command is requested before the transient object is committed to a persistent file; and to mark the persistent file as deleted if a delete is requested after the transient object is

committed to a persistent file (e.g. Fig. 2; Fig. 7; Fig. 10AB; Fig 24-26; para 0118-0119, pg. 17 – Note: use of TMM transient structure to enable modifying/removing – as in not marked for persisting or committed for file repository – using the created API when parsing DTD or XML data which are previously stored **reads on** modifying a transient object and generate code when such object is committed; while retrieving corresponding DTD/XML reads on reusable objects being committed for DB persistence from a previous development instance).

***Response to Arguments***

9. Applicant's arguments filed 10/03/07 have been fully considered but they are mostly MOOT in view of the new grounds of rejection being necessitated by the Amendments. That is, the claimed subject matter has changed in scope and context in part because of the clarification (see Appl. Rmrks pg. 8-9) to overcome a previous USC 112 rejection. Thus, the cited portions previously applied as to support what Applicant believes to be alleged anticipation by Charisius have now been replaced by different teachings by Charisius; and when such teachings are not deemed sufficient, a rationale as to render the corresponding claimed limitation obvious has been clearly laid out. As the majority of the arguments appear to have been based on the new changes in the claim, the arguments would not be deemed in proper prima facie terms with respect to CFR § 1.111b, and with the corresponding Office Action of record. For example, the arguments against 'generate an API' and/or 'intermediate objects' (Appl. Rmrks pg. 10-11) such as these were recited and addressed based from the grounds of the previous Office Action, are now moot or non-applicable in view of the above.

The claims will stand rejected as set forth in the current Office Action.

***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A Vu whose telephone number is (571) 272-3735. The examiner can normally be reached on 8AM-4:30PM/Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis Bullock can be reached on (571)272-3759.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3735 ( for non-official correspondence - please consult Examiner before using) or 571-273-8300 ( for official correspondence) or redirected to customer service at 571-272-3609.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Art Unit: 2193

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan A Vu/

Primary Examiner, Art Unit 2193

March 18, 2008